

*Office Memorandum* • UNITED STATES GOVERNMENT

TO : Chief, Services Division, ORR  
THRU : Chief, Materials Division, ORR  
FROM : Acting Chief, Chemicals Branch, D/M/RR

DATE: 4 November 1957

SUBJECT: Supply and Use of Ion Exchange Resins in the Sino-Soviet Bloc

REF : EDIC Case No. 26, 22 April 1957; Memorandum from Chief, D/S  
to Chief, D/M, 22 April 1957

In compliance with request contained in the above memorandum, M/CH submitted a report dated 24 May 1957. Additional information on the subject has appeared in the Soviet press and in technical periodicals during the past few months. Since these provide pertinent data on the subject, we have prepared an addendum to the earlier report, which not only contains the latest information available but also answers some questions raised by our previous report.

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Addendum to report on "Ion Exchange Resins in the Sino-Soviet Bloc," dated 24 May 1957.

Since the above report was submitted, additional information has been received which somewhat clarifies and confirms the general conclusions previously presented.

1. [REDACTED] has reported his conclusions on the Soviet use of ion-exchange resins in the metallurgical field, based on several talks with the Chief of the Metal Dressing Department of the Academy of Sciences in Moscow. The latter was a visitor to the US in October of this year. The following are the significant conclusions furnished by our informant:

a. While the Soviets are aware of the ion-exchange method of uranium extraction, this method has not been put into operation as of October 1957.

b. The Soviet scientist was anxious to obtain samples of the US resins used for this purpose.

c. The Soviets are "two years behind their US counterparts in the technical aspects of the use of ion-exchange resins for uranium extraction." Their work with such resins is still in the experimental stage. 1/

2. In June a technical journal published in Moscow mentioned several new types of resins which had apparently been developed in the laboratory but were not yet in commercial production. Several of these same resins had previously been listed as "being produced." 2/ As is often the case in Soviet announcements no distinction is made between laboratory developments and full-scale industrial production. The latter usually lags behind laboratory experiments by several years.

3. In August an Industrial-Economic Journal stated that Soviet scientists had developed more than 40 types of ion-exchange resins, but that these were still insufficient to meet industrial demands. "Orders for new ion-exchange resins exceed by many times the available production capacity." Two plants were mentioned as lagging in production. Both are known to be making phenol-formaldehyde plastics. Delays in production were attributed to both a shortage of special equipment and to a lack of raw materials. 3/

4. Our report of 24 May 1957 stated that "there is no firm evidence for a shortage of ion-exchange resins in the Sino-Soviet Bloc." This statement was based on the fact that there has been little or no trade in these materials between the Bloc and the Free World. The above-mentioned article is the first acknowledgment we have found that

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shows that a shortage actually exists.

5. Soviet literature lists more than 25 resins by code number, with no indication as to their chemical composition. <sup>4/</sup> The only exception is a resin known as "Sulphocarbon" which is presumed to be sulphonated coal. This material is also the only one for which official standards have been published. These standards make no mention of the chemical composition of "Sulphocarbon." <sup>5/</sup>

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1. [REDACTED]
  2. "Promyshlenno-Ekonomicheskaya Gazeta," 7 Jun 57, p. 3, Moscow. Unclassified.
  3. Ibid., 28 Aug 57, p. 3. Unclassified.
  4. "Khimicheskaya Nauka i Promyshlennost" vol I, no 5, 1956, Moscow, p. 554-559. Unclassified.
  5. "Khimicheskiye Tovary," vol I, Moscow, 1954, p. 224. Unclassified.

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